

^{A²} the transverse holes is oriented on a respective hole axis, and wherein at least [two] one of the hole axes [are] is angularly offset from [each other] another of the hole axes by an acute angle.

[Please delete claim 14.

¹⁹ 15 (once amended) [The nail of claim 14 further comprising] A humeral nail for securing fragments of a fractured proximal humeral cortex to a humeral shaft, the nail comprising:

a curved tapered shank having a curved conical profile with a diameter that is a linear function of position along the shank, the shank having a proximal end having a first diameter, and a distal end having a smaller second diameter, with the shank having a substantially constant shaft taper angle therebetween, the shank defining at least a first securement hole:

^{A³} a concavely tapered extending portion extending from the distal end of the shank, having a proximal end abutting the distal end of the shank at a transition;

the extending portion having the second diameter at its proximal end to provide a continuous surface at the transition;

the extending portion having a greater taper angle at its proximal end than the shaft taper angle, such that the transition between the shaft and the concavely tapered portion comprises a convex crest; and

the extending portion having a taper angle that diminishes toward the distal end [thereof] of the shank.

[Please delete claims 19-26.

Please add the following claims:

¹⁴ 27. The nail of claim 1 wherein the entire butt portion has a straight cylindrical profile.

¹⁵ 28. The nail of claim 1 wherein each of the transverse holes occupies a different plane.

¹⁶ 29. The nail of claim 1 wherein the transverse holes are closely grouped, the spacing along the length of the nail between the axes of adjacent holes being less than the lengths of the holes, such that the holes provide securement for portions of a humeral head when the nail is fully implanted in a humerus.

¹⁷ 30. The nail of claim 1 wherein the butt portion terminates at a proximal end, and wherein the transverse holes are closely grouped near the proximal end with all of the transverse holes being closer to the butt end than to a midpoint of the entire nail, such that the holes provide securement for portions of a humeral head when the nail is fully implanted in a humerus.

¹⁸ 31. The nail of claim 1 wherein the butt portion has a length of less than two times the diameter of the butt portion such that the holes are closely grouped.

[32. An elongated tapered nail for securing fractures of the proximal humerus comprising:
an elongated body having a curved shank of a first length configured to occupy an upper portion of the

proximal humeral shaft, and a contiguous straight cylindrical butt portion of a second smaller length extending proximally from the shank and configured to occupy the humeral cortex;

the butt portion defining a plurality of transverse holes angularly offset from each other, each defining a hole axis such that the holes may receive fasteners attached to fragments of the humeral cortex.

33. The nail of claim 32 including at least three transverse holes, each offset at an angle from the other holes.

34. An elongated tapered nail for securing fractures of the proximal humerus comprising:
an elongated body having a curved shank of a first length configured to occupy an upper portion of the proximal humeral shaft, and a contiguous butt portion extending proximally from the shank and configured to occupy the humeral cortex;

the butt portion terminating at a proximal end;

the butt portion having defining a plurality of transverse holes, each defining a hole axis, with at least one of the hole axes angularly offset from another of the hole axes; and

each of the transverse holes being positioned closer to the proximal end of the nail than to the midpoint of the nail, such that the holes are closely grouped to receive fasteners attached to fragments of the humeral cortex.

35. The nail of claim 34 wherein the curved shank defines a reference plane, and at least two of the hole axes are angularly offset from the reference plane by an acute angle.

Remarks

Claims 1-13 and 15-18 remain in the application, claims 14 and 19-26 are withdrawn, and claims 27-35 have been added.

Applicant elects with traverse to prosecute the claims of Group 1, and has withdrawn the claims of the other groups accordingly.

A new declaration is enclosed herewith as requested.

A sheet of drawings having corrected nomenclature is enclosed herewith to address the objections to the drawings. Appendices A-D remain in the application for prosecution, but will be withdrawn or made formal before issuance of a patent. The objection to the disclosure is obviated by the change to the drawings.

Claim 3 has been amended to overcome the section 112 rejection, and to provide clarity. The specification has been amended to overcome the section 112 rejection of claims 7 and 11. Claim 15 has been amended to provide antecedent basis.

Claim 1 has been amended to recite a butt portion defining at least three transverse holes, each angularly offset from the others. This provides the critical function of providing multidirectional attachment to different fragments of a fractured humeral head, and the diversity of hole orientations permits the nail to be implanted in either arm. The cited reference does not disclose holes in a butt portion in different orientations. Holes 26 and 28